UNITED
NATIONS

A

General Assembly

Distr.
LIMITED

A/AC.105/C.1/WG.6/L.12
24 February 1997

ORIGINAL: ENGLISH

COMMITTEE ON THE PEACEFUL
USES OF OUTER SPACE
Scientific and Technical Subcommittee
Thirty-fourth session
Vienna, 17-28 February 1997

DRAFT REPORT OF THE WORKING GROUP OF THE WHOLE TO EVALUATE THE IMPLEMENTATION OF THE RECOMMENDATIONS OF THE SECOND UNITED NATIONS CONFERENCE ON THE EXPLORATION AND PEACEFUL USES OF OUTER SPACE ON THE WORK OF ITS ELEVENTH SESSION

A. UNISPACE II

1. The Working Group of the Whole to Evaluate the Implementation of the Recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE 82) was re-established for its eleventh session by the Scientific and Technical Subcommittee in accordance with General Assembly resolution 51/123, paragraph 21, of 13 December 1996, with a view to improving the execution of activities relating to international cooperation, particularly those included in the United Nations Programme on Space Applications, and to proposing concrete steps to increase such cooperation as well as to make it more efficient. The Working Group held a series of meetings from 19 to __ February 1997, during the thirty-fourth session of the Scientific and Technical Subcommittee. At its meeting on __ February 1997, the Working Group adopted the present report.

2. Muhammad Nasim Shah (Pakistan) was elected Chairman of the Working Group. The Chairman, in his opening statement, reviewed the mandate of the Working Group for its eleventh session.

3. In accordance with resolution 51/123, paragraph 21, the Working Group continued its assessment of the implementation of the recommendations of UNISPACE 82. It had before it a number of studies and reports prepared by the Secretariat, Member States and international organizations (A/AC.105/661 and Add.1 and 2 and A/AC.105/660). It also had before it two technical studies prepared by the Secretariat, one on basic space science in developing countries (A/AC.105/664) and one on the use of new technologies in satellite communications and information networks (A/AC.105/665). The Working Group noted that the Secretariat was also in the process of preparing technical studies on space applications for sustainable development and on developing tele-education programmes through international cooperation.

4. The Working Group noted with satisfaction the valuable efforts of Member States, the United Nations and other international organizations to implement the recommendations of UNISPACE 82.

5. The Working Group agreed on the following conclusions and recommendations, keeping in view the priorities contained in General Assembly resolution 51/123, paragraph 18.

I. SHORT-TERM TRAINING AND LONG-TERM EDUCATION

6. The Working Group noted with appreciation that training courses and workshops in remote sensing, satellite communications and other topics had been organized for the benefit of developing countries with the assistance of the United Nations. While such courses and workshops on advanced applications of space science and technology should continue to be organized, the activities of the United Nations Programme on Space Applications should be oriented towards preparing the international and potential user communities for the Special Session of the Committee on the Peaceful Uses of Outer Space (UNISPACE III Conference). In particular, the recent advances in space technologies and applications for development should be brought to the attention of planners, administrators and decision makers in developing countries. Member States, particularly developed countries, and international organizations should be requested to support the training and dissemination of information activities of the Programme on an ongoing basis.

II. INTERNATIONAL AND REGIONAL COOPERATION

7. The Working Group noted with appreciation the reports prepared by the Office for Outer Space Affairs on the resources and technological capabilities of States in space activities as well as in the areas of education, training, research and fellowship opportunities for the promotion of cooperation in the peaceful uses of outer space. Those reports should continue to be periodically updated by the Office for Outer Space Affairs.

8. The Working Group recommended that, in the light of the continued development of space activities, the Committee on the Peaceful Uses of Outer Space should request all States, particularly those with major space or space-related capabilities, to continue to inform the Secretary-General annually, as appropriate, about those space activities that were or could be the subject of greater international cooperation, with particular emphasis on the needs of the developing countries.

9. Similarly, the Committee should also request international organizations with space-related activities to continue to inform the Secretary-General annually concerning those space activities that were or could be the subject of greater international cooperation, with particular emphasis on the needs of the developing countries.

III. INFORMATION, STUDIES AND TECHNICAL ADVISORY SERVICES

10. The Working Group appreciated the preparation by the Secretariat of the studies and reports on space science, technology and its applications referred to in paragraph 3. The Working Group recommended that, in preparation for the UNISPACE III Conference, further technical studies and reports to be prepared by the Office for Outer Space Affairs should be on subjects commissioned by the Advisory Committee and on subjects that could serve as background papers either for the preparatory activities for the UNISPACE III Conference or for the Conference itself.

11. In order to strengthen national space programmes and to promote the use of space technology for sustainable development, including higher education in space-related subjects, the United Nations Programme on Space

Applications should continue to provide, upon request, expert consultants from developed and developing countries to assist in the preparation of integrated national plans of action for initiating, strengthening or reorienting space applications programmes.

IV. OTHER MATTERS

A. Priority areas

12. The Working Group considered that, in order to further promote the applications of space science and technology for development, priority should be given to the following areas:

(a) *Stimulation and support of the growth of indigenous nuclei and an autonomous technological base in space technology in developing countries.* UNISPACE 82 recommended the free exchange of scientific and technological information and an arrangement for the transfer of technologies to promote the use and development of space technology in the developing countries. UNISPACE 82 also recommended that countries should not place undue restrictions on the sale of components, subsystems or systems required for peaceful space applications. A greater international understanding therefore needed to be evolved to overcome the difficulties faced by the developing countries in that respect;

(b) *Promotion of a greater exchange of actual experiences in space applications.* UNISPACE 82 recommended appropriate assistance and called particularly upon international financial agencies to support demonstration projects to provide opportunities for hands-on experience in space technology and applications for the developing countries through direct involvement in such applications projects or pilot projects;

(c) *United Nations funding.* The United Nations Programme on Space Applications should be given the full support of the United Nations in order to fully implement the recommendations of UNISPACE 82. That recommendation was made on the understanding that the Office for Outer Space Affairs would give priority to the full implementation of the United Nations Programme on Space Applications within the available resources of its regular budget;

(d) *Voluntary contributions.* Appreciation was expressed for the support of Member States and international organizations in the form of cash and in-kind contributions for the activities being undertaken by the United Nations Programme on Space Applications for the implementation of the UNISPACE 82 recommendations. Those Member States and international organizations were requested to continue their support and other Member States and international organizations were urged to provide cash and in-kind contributions for activities of the Programme, in particular those not implemented due to a lack of financing.

B. UNISPACE III Conference

13. The Working Group noted that the General Assembly, in its resolution 51/123, paragraph 28, had endorsed the recommendation of the Committee on the Peaceful Uses of Outer Space that a special session of the Committee (UNISPACE III), open to all States Member of the United Nations, should be convened at the United Nations Office at Vienna, preferably in 1999, unless progress towards agreeing on an agenda at the Scientific and Technical Subcommittee at its thirty-fourth session made it more appropriate to consider the year 2000.[1]

14. The Working Group also noted that the General Assembly, in paragraph 29 of the same resolution, had requested the Committee and the Scientific and Technical Subcommittee to act as the Preparatory Committee and the Advisory Committee for the UNISPACE III Conference and the Office for Outer Space Affairs to act as the executive secretariat and had requested the Preparatory Committee and the Advisory Committee to carry out the

tasks entrusted to them[2] and to report to the General Assembly at its fifty-second session on the progress made in the preparatory work for the UNISPACE III Conference.

15. The Working Group further noted that the Advisory Committee had decided that the Working Group could be called upon to carry out the tasks entrusted to it by the General Assembly.

16. The Working Group had before it a report by the Secretariat on matters relating to the planning of the Special Session of the Committee on the Peaceful Uses of Outer Space (UNISPACE III) (A/AC.105/662) and working papers submitted by the United Kingdom, on behalf of Austria, Belgium, Denmark, Germany, Finland, France, Ireland, Italy, Netherlands, Norway, Spain, Sweden and Switzerland (A/AC.105/C.1/L.209), by the United States (A/AC.105/C.1/L.211) and by the Group of 77 (A/AC.105/C.1/L.212).

17. On the basis of its deliberations, the Working Group made the recommendations below concerning the objectives, form, venue, date, participants, provisional annotated agenda, financial aspects and additional components of the UNISPACE III Conference.

A. Objectives of the UNISPACE III Conference

18. The primary objectives of the UNISPACE III Conference would be (a) to promote effective means of using space technology to assist in the solution of problems of regional or global significance and (b) to strengthen the capabilities of Member States, in particular developing countries, to use the applications of space research for economic, social and cultural development.

19. Other objectives of the UNISPACE III Conference would be as follows:

- To provide developing countries with opportunities to define their needs for space applications for development purposes in advance of the UNISPACE III Conference;

- To consider ways of expediting the use of space applications by Member States to promote sustainable development, particularly in implementing the recommendations contained in Agenda 21, adopted by the United Nations Conference on Environment and Development, through the involve-ment of a larger number of developing countries in international research programmes such as the International Geosphere-Biosphere (Global Change) Programme;

- To address the various issues related to education, training and technical assistance in space science and technology and their applications aimed at the development of indigenous capabilities in all States;

- To provide a valuable forum for a critical evaluation of space activities and to increase awareness among the general public regarding the benefits of space technology;

- To strengthen international cooperation in space technology and applications.

B. Organization of the UNISPACE III Conference

1. Form, venue and date of the UNISPACE III Conference

20. The UNISPACE III Conference would be held as a special session of the Committee, open to all Member States of the United Nations. It would be held at the United Nations Office at Vienna for a period of up to 10 days during July 1999.

2. Participants

21. Member States would be invited to attend the UNISPACE III Conference as participants. The following types of organizations would be invited to attend the UNISPACE III Conference as observers: (a) relevant intergovernmental organizations; (b) non-governmental organizations having observer status with the Committee; (c) other relevant non-governmental organizations involved in space activities; and (d) space-related industry.

3. Provisional agenda

(1) Opening of the UNISPACE III Conference.

(2) Election of officers.

(3) Adoption of the agenda and rules of procedure.

(4) Establishment of the committees.

(5) Statement by the Chairman.

(6) Statements by States and by international organizations.*

(7) Substantive items:

A. Status of scientific knowledge of Earth and its environment;
B. Status and applications of space science and technology;
C. Information needs and the global approach;
D. Promotion of international cooperation;
E. Economic and societal benefits.

(8) Additional components of the UNISPACE III Conference.

(9) Adoption of the report, including the recommendations and action plan.

(10) Closing of the UNISPACE III Conference.

4. Annotations to substantive items of the agenda

22. The objectives of the UNISPACE III Conference should be kept in mind while deliberating upon the various substantive items of the agenda.

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* Statements by representatives of Member States and by observers for international organizations would be limited to 10 minutes. The full text of the statements could be circulated by Member States, intergovernmental organizations and non-governmental organizations having observer status with the Committee. Other non-governmental organizations invited to the UNISPACE III Conference could also circulate papers.

(7). Substantive Items

(7)A. Status of Scientific Knowledge of the Earth and Its Environment

(7)A.1 Report of the Intergovernmental Panel on Climate Change

There would be a discussion of the latest scientific understanding of the nature and characteristics of climate change, highlighting information from the Second Assessment of Climate Change (1995) of the Intergovernmental Panel on Climate Change (IPCC).

(7)A.2 Report of the United Nations Environment Programme

There would be a discussion of the state of the environment, with emphasis on broad-scale land-use and land-cover changes, atmospheric pollution and issues (including the latest understanding of ozone, updating the 1994 Scientific Assessment of Ozone Depletion), surface-water availability and changes, and related topics.

(7)A.3 Report of the World Meteorological Organization

There would be a discussion of the state of knowledge on weather forecasting, atmospheric dynamics and severe storms.

(7)A.4 Reports of other relevant intergovernmental organizations

(7)A.5 Reports of international organizations, programmes and initiatives

There would be reports from, for example, the following:

- Committee on Earth Observation Satellites (CEOS);
- Global Climate Observing System (GCOS);
- Global Ocean Observing System (GOOS);
- Global Terrestrial Observing System (GTOS);
- World Climate Research Program (WCRP);
- International Geosphere-Biosphere Programme (IGBP);
- Integrated Global Observing Strategy (IGOS);
- Other organizations.

(7)B. Status and Applications of Space Science and Technology

While reviewing the sub-items below, special attention should be paid to the scientific and technological developments that had taken place, taking into account the interests of all countries, in particular the developing countries, with regard to the global, regional and national issues.

(7)B.1 The environment and natural resources and remote sensing

(7)B.1.1 *Disaster Preparation, Warning and Mitigation*

There would be a discussion on the state of knowledge of the use of remote sensing for disaster planning, including the ability to predict hurricanes, other severe weather events, floods, volcanic eruptions and earthquakes and the means by which such information could help in measuring damage from natural disasters and in assisting local officials in planning response and mitigation. There would be a discussion on the use of remote sensing techniques for assessing the condition of fire fuels and monitoring and fighting fires.

(7)B.1.2 *Environmental Hazard Detection and Mitigation*

There would be a discussion on the use of remote sensing for detecting and tracking pollution (both atmospheric and surface), including the latest applications for hazardous waste clean-up. It could include a discussion of ozone depletion and the development of ultraviolet (UV) monitoring and warning systems.

(7)B.1.3 *Coastal Degradation/Management*

There would be a discussion on the use of remote sensing for monitoring marsh and coastal health and possible degradation. It might feature a discussion of the use of "ocean colour" information for coastal management.

(7)B.1.4 *Seasonal-to-Annual Climate Prediction*

There would be a discussion of how scientific prediction of climate events (such as El Nino-Southern Oscillation) could affect agricultural, fishery and disaster management planning. There would be an update on the state of understanding and means by which information could be best shared. It could include an update on international activities in climate prediction.

(7)B.1.5 *Agricultural Enhancements*

There would be a discussion on how remote sensing observations could increasingly be used to help improve agricultural planning, including areas such as pesticide application, crop rotation, growth rates, infestation and precision farming. There would also be an update on uses of remote sensing to measure and forecast drought and desertification.

(7)B.1.6 *Resource Management and Planning*

There would be a discussion of the use of remote sensing for managing natural resources such as forests, grazing lands, wildlife and fisheries, as well as for urban planning and land-use decisions.

(7)B.1.7 *Freshwater Management*

There would be a discussion on the use of remote sensing for the management of freshwater resources and the detection of contamination, depletion etc.

(7)B.1.8 *Global Health, Including Disease Vectors, Mitigation and Prevention*

There would be a discussion on the uses of remote sensing for the detection of disease vectors and infestations and the means by which that information could be used for preventing the spread of disease and/or identification of environmental factors that could prevent occurrence of disease (e.g. the Ames Research Center's training in use of remote sensing to monitor vector-borne diseases).

(7)B.1.9. *Other Subjects to Be Identified*

Additional areas of interest would be identified by the participants in the planning conference.

7.B.2 Navigation and Precise Location Systems

(7)B.2.1 *Availability of Services*

There would be a discussion of improved methods to ensure continuity in the availability of satellite-based position, location and navigational services, taking into account the existing and planned cooperative/global navigational satellite systems.

(7)B.2.2 *Enhanced Capability*

There would be a discussion on enhancing international cooperation in satellite-based search and rescue systems, including development of common standards for ship and aircraft locator beacons. There would also be a discussion of the use of microwave systems for geophysical studies and oceanographic research.

(7)B.2.3 *Emerging Applications*

There would be a discussion of various uses of satellite-based position location services for scientific research, such as crustal dynamics, volcanology and other applications.

(7)B.3 Review of Space Communications and Applications

Presentations would examine the capability of space systems to enhance existing systems and to improve the communications infrastructure, reviewing also advances in space communications and its applications.

(7)B.3.1 Examining and promoting cooperation in the planning, design, operation and utilization of satellite communication and broadcasting systems

(7)B.3.2 Examining the uses of mobile satellite communications and other new technologies, including low-cost, lightweight satellites in non-geostationary orbits (lightsats)

(7)B.3.3 Examining other uses of satellite-based systems, notably for tele-education, telemedicine and family welfare, and emergency communications

(7)B.3.4 Examining the technical aspects of transnational satellite direct broadcasting

(7)B.4 Basic Space Science and Secondary Applications of Space Technology

(7)B.4.1 Assessment of basic space sciences and their benefits

(7)B.4.2 Potential uses of space for manufacturing, specialized and/or unique products and materials

(7)B.4.3 Industrial and commercial applications of spin-offs from space technologies

(7)C. Information Needs and the Global Approach

(7)C.1 Research Needs

There would be a discussion of research information and capabilities that are required to address critical questions (such as global change, desertification, biodiversity and deforestation). There would be an examination of the need for a global approach to such research, focusing on the needs of developing countries (i.e. scientific collaboration, data exchange, infrastructure issues).

(7)C.2 Applications Needs

There would be a discussion of the type of information and capabilities needed to address applications issues and an assessment of how current systems were meeting those needs. The focus should be on the types of information needed by developing countries to address pressing issues and the means by which that information could be acquired.

(7)C.3 Integration of multi-source data through the use of geographic information systems

There would be a discussion of the integration of multi-source data through the use of geographic information systems (GIS) and transfer standards, including presentations on innovative projects demonstrating that capability. Updates should be provided on the latest efforts to incorporate GIS into local and regional planning.

(7)D. Promotion of International Cooperation

(7)D.1 There would be a review of existing and new mechanisms for international cooperation in space activities; and consideration of ways and means for enhancing coordination/cooperation among Member States, the United Nations and its organizations, and other existing international programmatic and scientific organizations. There would be, *inter alia*, a panel discussion among major international organizations (IGBP, WMO, UNEP, CEOS and others) on how they might facilitate increased multilateral and bilateral cooperation.

There would be a review of the current status of the law of outer space, including ways and means of promoting wider adherence to the existing international space treaties and principles.

(7)E. Economic and Societal Benefits

(7)E.1 Ways and means of increasing the economic efficiency of space technology and its applications

There would be a discussion on the means by which space technology could be "spun off" to more directly benefit people's lives and well-being. A discussion of the routes to greater economic efficiency would be included..

(7)E.2 Promotion of the commercial benefits of space activities

There would be a discussion of the means by which space technology and observations could best be converted to commercial applications, including the following:

(a) Design, development and use of mini- and micro-satellites for space research;

(b) Reliable and affordable access to space, including the case of human space flight.

(7)E.3 Education and Training

There would be a discussion of the efforts currently under way to use space information and knowledge to advance the state and quality of education. Areas of emphasis could include teacher training, the development of current materials, the use of distance learning and mass literacy, and the means for greater international cooperation in education efforts. There could be updates on international activities, such as Global Learning and Observations to Benefit the Environment (GLOBE) programme, International Space University (ISU) and European International Space Year (EURISY) activities and a report from the IGARSS special session on environmental education, as well as comments from the United Nations Educational, Scientific and Cultural Organization (UNESCO).

There would also be a discussion on the education of engineers, scientists and technicians in developing countries in the fields of design and manufacture of space systems. Emphasis would be placed on action necessary to establish a critical mass of experts to undertake those activities.

(8) Additional Components of the UNISPACE III Conference

To allow the broadest scope of relevant topics, the UNISPACE III Conference would include additional components in the following form:

Workshop/Seminars: These activities can be held before or during the UNISPACE III Conference and could be organized by interested specialized agencies of the United Nations and other international organizations on topics consistent with the objectives of the UNISPACE III Conference that would fit within the agreed structure and that would be relevant to their expertise and mandate. These could, for example, include the following:

Space law	- IISL
Environment (and remote sensing)	- CEOS, FAO, UNEP, WMO
Information society and mobility (communications)	- ITU, ICAO, IMO

Science and education (including astronomy)	- COSPAR, IAF, UNESCO, IAU
Generic and enabling space technologies	-
Preservation of space environment (space debris)	- UN, IADC

The appropriate organizations, of which the above list is only an example, could be asked to make preparations during their forthcoming sessions to help enrich the UNISPACE III Conference.

Poster sessions: A series of scientific poster sessions would be selected for display at the exhibition location and would be open to participants and observers throughout the UNISPACE III Conference. The posters/papers would highlight the results from ongoing scientific and technical space projects and would be presented by space agencies, international scientific organizations and other interested entities;

Exhibition: A Space Exhibition would be organized at the venue of the UNISPACE III Conference under the aegis of the Office for Outer Space Affairs, with the active participation of space industry and other interested parties;

Public evening lectures: Lectures could be given by eminent scientists, and other experts, on various subjects of broad interest to participants of the UNISPACE III Conference and the general public.

Consistent with the structure of the UNISPACE III Conference, the organization, running and reporting of the UNISPACE III Conference would make appropriate and significant use of the Internet. The linking of the United Nations and relevant international sites would assist in the planning and preparation for the UNISPACE III Conference and provide the ability to demonstrate the many other means by which the objectives set for the UNISPACE III Conference were being achieved worldwide.

(9) Adoption of the Report, Including the Recommendations and Action Plan

In order for the UNISPACE III Conference to yield concrete results in international cooperation in the peaceful uses of outer space, sufficient consideration should be given to the planning of realistic and feasible follow-up activities that could be implemented in accordance with the recommendations of the UNISPACE III Conference. The recommendations should be sharply focused and limited in number and might indicate some defined goals that could be achieved within a short period of time.

(10) Closing of the UNISPACE III Conference

Other Considerations Related to the Substantive Items of the Agenda

(i) During the consideration and treatment of substantive agenda items, participants should take into account the Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries, adopted by the General Assembly in its resolution 51/122 of 13 December 1996.

(ii) Two committees would be established:

Committee I: it would deal with agenda items (7) A and B;

Committee II: it would deal with agenda items (7) C, D and E.

Committee I would start its work on the afternoon of the first day of the UNISPACE III Conference. No more than two meetings would take place simultaneously.

C. Financial aspects

23. In planning and executing the UNISPACE III Conference, all efforts should be made to limit costs and to keep within the existing resources of the Committee and its secretariat by reducing or curtailing the duration of sessions of the Committee and its subsidiary bodies during the year of the UNISPACE III Conference, on the understanding that the conference-servicing resources allocated to those bodies in 1999 would remain at the same level as in the current biennium. Additional activities might be undertaken using voluntary contributions from Member States and international organizations, in the form of cash, or human and other in-kind resources.

Notes

1. *Official Records of the General Assembly, Fifty-first Session, Supplement No. 20* (A/51/20), para. 176.

2. Ibid., paras. 178-185.